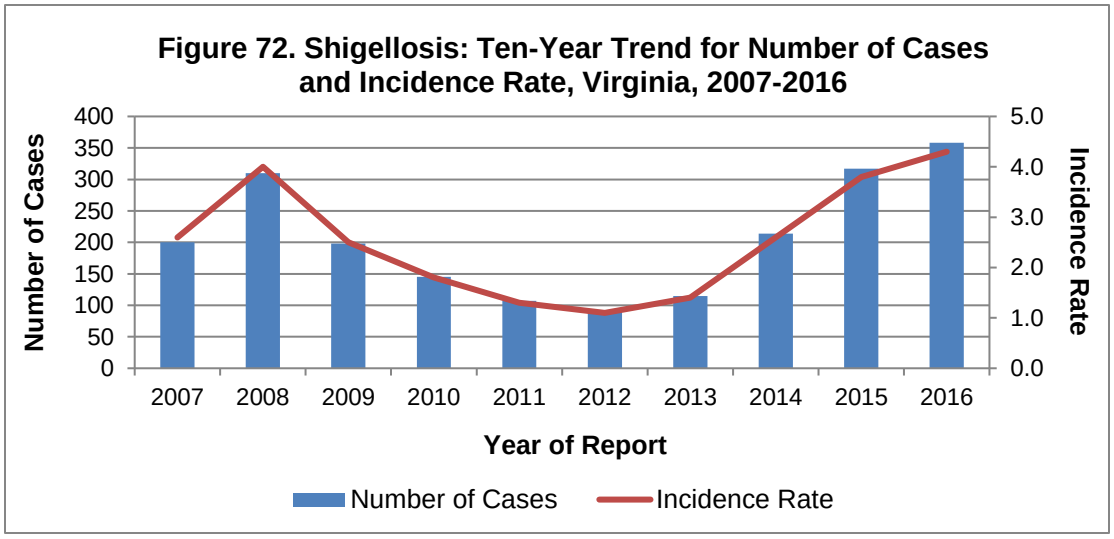
Shigellosis

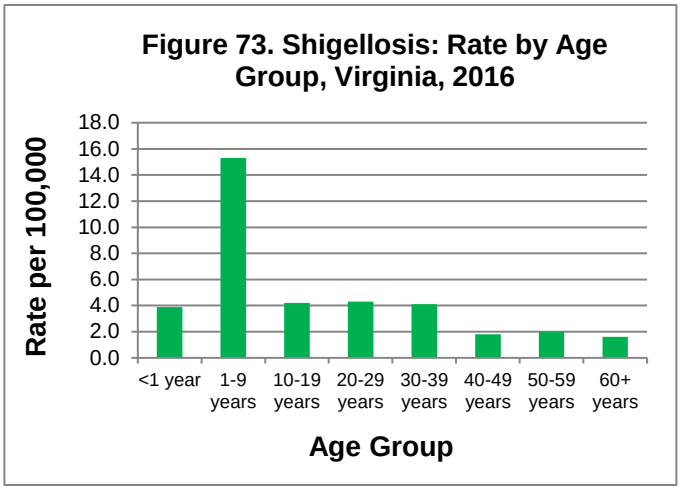
Agent: *Shigella* (bacteria)
Mode of Transmission: Primarily person-to-person transmission when the bacteria are passed from the stool of an infected person to another person through direct contact. Additionally, contact with contaminated surfaces or objects (such as changing tables, diaper pails, toys), ingestion of contaminated food or water, and exposure to feces through sexual contact may spread the disease.
Signs/Symptoms: Diarrhea ranging from watery and loose to mucoid with or without blood; fever, and sometimes nausea, vomiting, abdominal cramps and painful straining while defecating. Mild and asymptomatic infections can also occur.
Prevention: Proper hand hygiene is essential to limit transmission. Additional control measures include improved sanitation, chlorination of drinking water, proper cooking and storage of food, and measures to decrease contamination of food by houseflies. Cases of shigellosis in food handlers, childcare center attendees or workers, or in healthcare personnel providing direct patient/resident care require public health evaluation and intervention to prevent the spread of disease.
Other Important Information: *Shigella sonnei*, (also known as "group D" *Shigella)*, accounts for over two-thirds of shigellosis in the United States, while *Shigella flexneri* (also known as "group B" *Shigella)* accounts for almost all the rest. Resistance to some antibiotics used to treat shigellosis is increasing worldwide.

Shigellosis: 2016 Data Summary	
Number of Cases:	358
5-Year Average Number of Cases:	168.8
% Change from 5-Year Average:	+112%
Incidence Rate per 100,000:	4.3

During 2016, 358 cases of shigellosis were reported in Virginia. This represents a 13% increase from the 317 cases reported in 2015, and is more than double the five-year average of 168.8 cases per year (Figure 72). *Shigella* spp. are estimated to cause almost



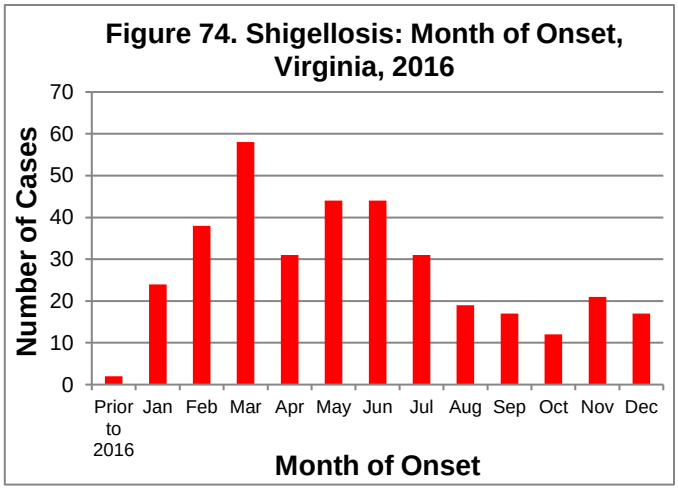
500,000 illnesses each year in the U.S, although the number of laboratory-confirmed cases is much lower (CDC). The incidence of shigellosis cases is cyclical with peaks approximately every 10 years.



Historically in Virginia, the 1-9 year age group has had the highest number of cases reported and the highest incidence rate. The incidence rate in the 1-9 year age group increased from 14.1 per 100,000 in 2015 to 15.3 in 2016 (Figure 73). High incidence in this age group is expected because toddlers, age 2 to 4 years, are more likely to be exposed to shigellosis in child care and home settings where other young children may not routinely wash their hands after using the toilet. Incidence among the other age groups ranged from 1.6 to 4.3 per 100,000.

Race information was not reported for 26% of cases. Among those where race was known, incidence rates were highest in the black population (7.8 per 100,000), followed by the white and "other" populations (2.0 and 1.2 per 100,000, respectively). Incidence was slightly higher among females compared to males (4.5 and 4.0 per 100,000, respectively).

Geographically, the eastern region accounted for 48% of all cases in Virginia during 2016; as a result, the eastern region had the highest incidence rate overall (9.3 per 100,000), followed by the central and southwest regions (with rates of 4.4 and 3.4 per 100,000, respectively). The northern and northwest regions had incidence rates of 2.3 and 1.5 per 100,000, respectively (see map below for incidence by locality). Transmission occurred throughout the year, with the majority of cases occurring in the late winter to mid-summer, peaking in March (Figure 74).



Five confirmed shigellosis outbreaks were reported in 2016. These outbreaks ranged in size from 2 to 8 persons and occurred in a variety of settings, with 4 of the 5 outbreaks occurring in daycare centers or schools. Two outbreaks occurred early in the first three months of the year and the remaining three occurred after school was back in session in the autumn.

Shigellosis Incidence Rate by Locality
Virginia, 2016